# THE K-8 AERONAUTICS INTERNET TEXTBOOK

# PROJECT PLAN

Covering the Time Period June 19, 1995 - June 18, 1998

Cislunar Aerospace, Inc.
455 Masonic Court
Vallejo, CA 94591

NASA Cooperative Agreement Number: NCC2-9010

| ID | Name | Sch Start | Sch End |
|---|---|---|---|
| 1 | Project Plan | 06/19/95 | 07/03/95 |
| 2 | Phase I Development | 06/19/95 | 03/31/96 |
| 3 | Multimedia Phase I Development | 06/19/95 | 03/31/96 |
| 4 | System Support Year 1 | 06/19/95 | 06/18/96 |
| 5 | Pilot School Evaluation of Phase I Curriculum | 10/01/95 | 03/31/96 |
| 6 | Field Test Phase I | 01/01/96 | 03/31/96 |
| 7 | Install Pilot School Equipment - Year 1 | 03/01/96 | 03/31/96 |
| 8 | Training of Pilot Schools | 03/01/96 | 03/31/96 |
| 9 | Phase I Pilot in Classrooms | 04/01/96 | 06/18/96 |
| 10 | Final Project Report Deliverable - Year 1 | 06/01/96 | 06/18/96 |
| 11 | Phase I Modification | 06/19/96 | 08/31/97 |
| 12 | Phase II Development | 06/19/96 | 03/31/97 |
| 13 | Multimedia Phase I Modification | 06/19/96 | 09/30/96 |
| 14 | Multimedia Phase II Development | 06/19/96 | 03/31/97 |
| 15 | System Support Year 2 | 06/19/96 | 06/18/97 |
| 16 | Implement Phase I Modifications | 10/01/96 | 10/01/96 |
| 17 | Install Pilot School Equipment - Year 2 | 10/01/96 | 10/31/96 |
| 18 | Pilot School Evaluation of Phase II | 10/01/96 | 03/31/97 |
| 19 | Field Test Phase II | 01/01/97 | 03/31/97 |
| 20 | Phase II Pilot in Classrooms | 04/01/97 | 06/18/97 |
| 21 | Final Project Report Deliverable - Year 2 | 06/01/97 | 06/18/97 |
| 22 | Phase II Modification | 06/19/97 | 08/31/97 |
| 23 | Phase III Development | 06/19/97 | 02/01/98 |
| 24 | Multimedia Phase II Modification | 06/19/97 | 09/30/97 |
| 25 | Multimedia Phase III Development | 06/19/97 | 02/28/98 |
| 26 | System Support Year 3 | 06/19/97 | 06/18/98 |
| 27 | Implement Phase II Modifications | 10/01/97 | 10/01/97 |
| 28 | Install Pilot School Equipment - Year 3 | 10/01/97 | 10/31/97 |
| 29 | Pilot School Evaluation of Phase III | 10/01/97 | 01/31/98 |
| 30 | Field Test Phase III | 01/01/98 | 02/28/98 |
| 31 | Phase III Pilot in Classrooms | 03/01/98 | 06/18/98 |
| 32 | Final Project Report Deliverable - Year 3 | 06/01/98 | 06/18/98 |

K-8 Aeronautics Internet Textbook

| ID | Name | Sch Start | Sch End |
|----|------|-----------|---------|
| 1 | Project Plan | 6/19/95 | 7/3/95 |
| 2 | Phase I Development | 6/19/95 | 3/31/96 |
| 3 | Multimedia Phase I Development | 6/19/95 | 3/31/96 |
| 4 | System Support Year 1 | 6/19/95 | 6/18/96 |
| 5 | Pilot School Evaluation of Phase I Curriculum | 10/1/95 | 3/31/96 |
| 6 | Field Test Phase I | 1/1/96 | 3/31/96 |
| 7 | Install Pilot School Equipment - Year 1 | 3/1/96 | 3/31/96 |
| 8 | Training of Pilot Schools | 3/1/96 | 3/31/96 |
| 9 | Phase I Pilot in Classrooms | 4/1/96 | 6/18/96 |
| 10 | Final Project Report Deliverable - Year 1 | 6/1/96 | 6/18/96 |
| 11 | Phase I Modification | 6/19/96 | 8/31/97 |
| 12 | Phase II Development | 6/19/96 | 3/31/97 |
| 13 | Multimedia Phase I Modification | 6/19/96 | 9/30/96 |
| 14 | Multimedia Phase II Development | 6/19/96 | 3/31/97 |
| 15 | System Support Year 2 | 6/19/96 | 6/18/97 |
| 16 | Implement Phase I Modifications | 10/1/96 | 10/1/96 |
| 17 | Install Pilot School Equipment - Year 2 | 10/1/96 | 10/31/96 |
| 18 | Pilot School Evaluation of Phase II | 10/1/96 | 3/31/97 |
| 19 | Field Test Phase II | 1/1/97 | 3/31/97 |
| 20 | Phase II Pilot in Classrooms | 4/1/97 | 6/18/97 |
| 21 | Final Project Report Deliverable - Year 2 | 6/1/97 | 6/18/97 |
| 22 | Phase II Modification | 6/19/97 | 8/31/97 |
| 23 | Phase III Development | 6/19/97 | 2/1/98 |
| 24 | Multimedia Phase II Modification | 6/19/97 | 9/30/97 |
| 25 | Multimedia Phase III Development | 6/19/97 | 2/28/98 |
| 26 | System Support Year 3 | 6/19/97 | 6/18/98 |
| 27 | Implement Phase II Modifications | 10/1/97 | 10/1/97 |
| 28 | Install Pilot School Equipment - Year 3 | 10/1/97 | 10/31/97 |
| 29 | Pilot School Evaluation of Phase III | 10/1/97 | 1/31/98 |
| 30 | Field Test Phase III | 1/1/98 | 2/28/98 |
| 31 | Phase III Pilot in Classrooms | 3/1/98 | 6/18/98 |
| 32 | Final Project Report Deliverable - Year 3 | 6/1/98 | 6/18/98 |

| No. | Task | YEAR 1 | Start | End |
|-----|------|--------|-------|-----|

**00.0.0**  **Administration**                                        06/19/95    06/18/96
**PI, Hogan, Meizel, Volpe, Pallis, Ryan, IT/DCAS, Zenhausern,**
**Hartman**

Project coordination and required NASA status reports.
**Deliverables:   Weekly status reports and required  NASA  reports.**

**01.0.0**  **Project Plan**                                          06/19/95    07/03/95
**Responsible:  PI**

Develop and publish the project plan. The plan will list: all milestones and dates, all
project tasks which are part of those milestones, each team member that will participate
on that task and the deliverable on that task.  A detailed description of each task will be
included.
**Deliverables: Project  Plan**

**02.0.0**  **Phase I Development**                                    06/19/95    03/31/96
**Responsible  PI**

Phase I Development entails all aspects of the development of *The  Principles  of
Aeronautics* portion of the electronic textbook, the complete sample of *Flying as a
Natural Part of Our World,* and the development of the Engineers and Scientists Guide
to working with students.  The development of *The Principles of Aeronautics* section
includes text development and graphics determination.  Editing for continuity of
language as necessary will be done.
**Deliverables: The *Principles  of  Aeronautics*  portion  of  the  textbook,  the
complete  sample  of *Flying  as  a  Natural  Part  of  Our  World,*  Engineers
and  Scientists  Guide.**

**02.0.1**  **Develop Principles Of  Aeronautics**           06/19/95    03/31/96
**PI, Ryan , Alden, Chaid, Coates, Hawkins, Herman , Johnson, Shultz,
Swan, Hogan, Meizel**

Research and write the textbook portion of *The Principles of Aeronautics* section of the
electronic textbook for teacher, beginner, intermediate, and advanced audiences.
Include enhancements as needed for deaf and Spanish speaking students.  Define all
graphics required.  Expand/modify the original chapter outline (Table of Contents) as
needed.  Suggest, when possible, lesson plan, student activities, video suggestions and
individuals which might be interviewed to supplement the text.  Rewrite and edit per
recommendations or PI's request.
**Deliverables: Approximately 500 pages of The *Principles  of  Aeronautics*
portion  of  the  textbook,  bi-monthly  lists  of  graphic  needs**

**02.1.1**  **Complete Sample**                                       06/19/95    03/31/96
**Ryan, Hawkins, Herman, Hogan , Meizel,**
**PI**

Research and write the complete sample for *Flying as a Natural Part of Our World.*
This will include: the text for teacher, beginner, intermediate, and advanced levels, the
teacher's supplement and student activity workbook.  All graphics and video
suggestions will be defined.  Rewrite as necessary.  Enhance for deaf and Spanish
speaking students as necessary.

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**Deliverables: As defined in this task a completed sample of** *Flying as a Natural Part of Our World.*

02.1.2     **Scripts for Experiments**                  07/15/95        12/01/95
             **Ryan, Hawkins, Herman, Hogan, PI, Hartman**

Determine the number of experiments to be video taped and content. Develop the detail for each experiment. Determine the props required for each experiment. Determine the setting required to video tape each experiment.
**Deliverables: Lesson plan including outline for each experiment and scripts as needed, list of props needed, suggested location and scene.**

02.1.3     **Scripts for Interviews**                     07/15/95        12/01/95
             **PI, Ryan, Alden, Chaid, Chapman, Coates, Hawkins, Herman, Johnson,Swan**

Develop a list of each person to be interviewed and purpose of the interview. Develop the script for each interview. Determine the setting for each interview.
**Deliverables: List of Persons to be interviewed and basic purpose of interview. Interview script for each person. A list of the Setting and Location for each person to be interviewed.**

02.0.3     **Develop Engineers and Scientists Guide Sample**    06/19/95        03/31/96
             **Shultz, Ryan, Hogan, Meizel, PI**

Research and write the Engineers and Scientists Guide to working with students. This should include information on the abilities of the general K-8 student population, deaf students and students from a variety of cultures. The intend is to educate the engineer and scientist so that their participation during this project will be as fruitful and enjoyable for themselves and the students they will work with as possible.
**Deliverables: Engineers and Scientists Guide**

03.0.0     **Multimedia Phase I Development**               06/19/95        03/31/96
             **Responsible: Pallis**

Multimedia Phase I Development entails all aspects of developing multimedia graphic materials, videos, stills, illustrations, converting all text developed by the Curriculum Team into HTML format, integrating these with the graphic materials into a finished product, and placing the combined product onto the World Wide Web (WWW). In addition, during the course of the first year of the project, the mulitmedia development equipment will be setup, searches for available sources of multimedia materials will be conducted, and evaluation of the available browsers on the market will be conducted.

03.0.1     **Procure Multimedia Development Equipment**    06/19/95        08/15/95
             **Pallis, Hickey, Okamoto, Hartman PI**

Multimedia development equipment will be procured as a Year 1 task. The required hardware and software lists will be validated; the equipment will be purchased. The purpose of the development equipment is to enable the source materials developed by the project team members to be integrated, proven, and prepared for installation on the WWW. This equipment will be used throughout the life of the project.
**Deliverables: Written statement from the Multimedia Project Manager validating the hardware and software lists. Purchase orders from PI. Development equipment warranties.**

03.0.2	**Install Hardware / Software**	08/15/95	08/18/95
	**Pallis, Hickey, Okamoto**

Install all hardware and configure system for the project development.
**Deliverables:	Letter from Pallis to PI stating that all development hardware and software has been configured, installed and is functioning.**

03.0.3	**Prototype Multimedia Model**	06/19/95	08/22/95
	**Pallis, Hickey, Okamoto, Hartman, PI**

Prototype a single lesson from beginning to end. Determine appropriate bandwidths, downloading requirements and video clarity requirements. Integrate the products of all the software tools to run through the full cycle. This includes development of a sample file, HTML conversion, loading onto server, and downloading over the internet.
**Deliverables: Written statement of findings to the PI.**

03.0.4	**Review WWW as Source of Materials**	06/19/95	08/15/95
	**Okamoto, Zenhausern**

Review the World Wide Web for sources of background materials and state of the art multimedia presentations for this project. Sources of material on aeronautics, aviation, aerospace, teacher and children resource materials are to be investigated. Dr. Robert Zenhausern's lists should be investigated. Other subject materials of interest should be noted, such as weather, animals of interest to the project, aircraft and sports equipment.
**Deliverables:	Summary of available materials and sources of information, graphics, and resources available on or through the WWW and Internet.**

03.0.5	**Review Browsers**	06/19/95	08/01/95
	**Okamoto, Hickey**

Determine a list of available WWW Browsers and review for performance and capabilities with the equipment (both hardware and software) likely to be used by the team members and end users. Document peculiarities which need to be known in preparing HTML and graphic files, or may affect the display of the K-8 Aeronautics Internet Textbook such that maximum compatibility is achieved.
**Deliverables:	List of WWW Browsers available for, on, or through the WWW and Internet, including any new browsers. A written comparison of browsers, and a list of considerations for each browser, compatability with the developed project materials and peculiarities.**

03.0.6	**Other Multimedia Sources**	6/19/95	8/17/95
	**PI, Okamoto, Hickey, Johnson, Meizel, Chapman, Chaid**

Review other sources for multimedia materials, or materials which can be incorporated into multimedia presentations for the project. Review aviation, aerospace, teacher rand children resources for materials applicable to multimedia presentations. Possible sources include the FAA, AIAA, NASA, the Smithsonian, the Air and Space Museum, National Geographic, Marine World, UC Davis Aviary Sciences. Determine the most likely sources for graphics to be used in the development of the multimedia aspects of the project. For example, conventional 35mm photography, commercial CD Rom,

WWW and Internet, video still extraction, high quality published prints and photographs.
**Deliverables: A written summary for the PI of the available materials, application of the materials, the release required for the utilization of the materials and the medium the materials exist on, such a photograph, film, video.**

03.0.7     **Signing and Captioning**                   06/19/95      08/18/95
           **PI, Ryan, Hogan, Meizel**

Determine which videos will need to be signed or captioned. Develop the signing or captioning script, if different from spoken script. Determine the setting for signing, if different than that for the experiment.
**Deliverables: A list of which video clips are to be signed or captioned along with the necessary script.**

03.0.8     **Determine Incorporation of Signing/Captioning**     07/05/95      08/18/95
           **Pallis, Hartman, Hickey, Okamoto**

Determine the best method for the incorporation of the signing video and captioning into the deliverable video. That is, will the signed video be a separate selectable video playing simultaneously, in sequence, or be selectable as a separate video? Determine how to synchronize the signing video and captioning with the experiment video.
**Deliverables: Written statement to PI on incorporating signing and captioning.**

03.0.9     **Determine Copyright Requirements for Project**     07/05/95      07/14/95
           **Okamoto, Hickey, PI**

Determine the copyright requirements which will apply to the project for items developed by the project, and to avoid violating the copyright of others.
**Deliverables: List of rules and procedures for copyright issues for the project.**

03.1.1     **Develop "Release Notice" Form and Rules.**         07/05/95      07/14/95
           **Pallis, Ryan**

Determine requirements for obtaining release notices from models and subjects and develop a Release Notice Form.
**Deliverables: Release notice form for use by project.**

03.1.2     **Determine Experiments for Each Video Session**     07/28/95      08/18/95
           **Pallis, Hartman, PI**

Convert the purpose and plan for each experiment into a script which will allow for video taping during the assigned session.
**Deliverable: A script for each experiment, complete with a personnel list, prop list, location requirements,laid out for each video taping session.**

03.1.3     **Production Video Taping**                     08/19/95      12/05/95
           **Pallis    Helios, PI**

Prepare for all video taping to be performed during this year. Make all arrangements for personnel, locations, props, and make set ready. Finalize video taping dates for Multimedia Phase I. Helios to make arrangements for video equipment and supplies. Video tape all sessions. Up to seven weekend sessions will be required. Return sets to original condition.
**Deliverable: Letters, dates and copies of scripts to each video taping participant. All video sessions taped and ready for editing.**

03.1.4    **Determine Requirements for Editing Processes**    07/05/95     07/15/95
         **Pallis, Hartman, Hickey, Okamoto**

Develop a procedure which will be used by Helios to act as a guide in video tape editing. Also develop a procedure which will define the extent of video tape editing which will be necessary for processing on the Macintosh.
**Deliverables: A written procedure for the above to be delivered to the PI.**

03.1.5    **Edit Video Tapes**                         08/26/95     01/15/08
         **Helios**

Perform video tape editing for all experiments. Video tapes of each experiment and interview will be ready for digitizing.
**Deliverables: Edited video tapes delivered to Cislunar.**

03.1.6    **Edit Video Tapes into QuickTime Video Clips**    11/05/95     2/15/96
         **Okamoto, Hickey, Pallis, Hartman**

Digitize each edited video tape and perform final editing to accommodate the requirements for delivering the video over the internet.
**Deliverables: QuickTime video clips ready for use in the internet textbook.**

03.1.7    **Determine Method of Transfer to IT/DCAS**    07/05/96     07/15/96
         **Pallis, IT/DCAS**

Determine what methods will be necessary to send all textbook files to IT/DCAS for integration into the WWW server. Determine how to index files to transfer from the Macintosh to the IT/DCAS Unix platform.
**Deliverables: Written procedure stating how the transfer files will be accomplished.**

03.1.8    **Compress Video Files**                   01/15/96     2/21/96
         **Okamoto, Hickey, Pallis**

All videos are to be compressed and made available for integration into the internet textbook.
**Deliverables: A written statement that all video tapes for the year have been compressed and are ready for delivery to IT/DCAS.**

03.1.9    **Generate all Graphics Required for the Textbook**   06/19/95     12/1/95
         **Pallis, Hickey, Okamoto**

Develop on-line Multimedia Request Form for textbook developers to use. The form will contain the following information: photo content - object, object size, pose, scene;

description; image display size, color, resolution, hot spots and links; photograph, illustration, or line art. Generate all graphics required for inclusion into the internet textbook. This includes preexisting graphics files from other sources, digitizing photographs and video stills, and generating all illustrations as required.
**Deliverables: A Multimedia Request Form. A written statement that all graphics are available for use with the internet textbook.**

04.0.0     **System Support Year 1**                    06/19/95      06/18/96
          **IT/DCAS, Gargano and Weiss**

Acquire and install the server equipment. Support the World Wide Web server for the K-8 Aeronautics Internet Textbook. Assist in the loading of text, graphic and video medium. Consult and assist in a "reflector mail service" for team members. Assist in the installation of the Davis Joint Unified School District pilot schools equipment. Interface with the Davis Community Network. Based on priorities set with the PI support other essential systems work.
**Deliverables: Status reports as required by the PI.**

04.0.1     **Develop Self-Paced Internet Training Package**     06/19/95      02/28/96
          **Weiss, Meizel, PI**

Coinvestigator and PI will specify requirements for a self paced internet training package. IT/DCAS will produce the package. The coinvestigator will be responsible for acceptance of the package.
**Deliverables: Accepted Self Paced Internet Training Package**

05.0.0     **Pilot School Evaluation of Phase I Curriculum**     10/01/95      03/31/96
          **Hogan, St. Joseph's Staff, Meizel, DJUSD Staff, Volpe, PS 102 Staff, PI**

Critique the textbook materials for ease of use, content, applicability to state requirements and classroom utilization. In particular feedback regarding the texts applicability for multicultural, deaf and visually impaired students    Specify modifications and enhancements needed. Make suggestions.
**Deliverables: Written critiques and evaluations by pilot school staffs.**

06.0.0     **Field Test Phase I**                             01/01/96      03/31/96
          **PI, IT/DCAS, Meizel, Ryan, Alden, Coates**

Utilizing typical classroom computer equipment, benchmark the performance of the developed project materials. Check out all developed procedures on proposed textbook utilization.
**Deliverables: Written summary of benchmark results, modified procedures and a list of system modifications needed.**

07.0.0     **Install Pilot School Equipment - Year 1**     03/01/96      03/31/96
          **Hickey, Pallis, Gargano, Meizel**

Installation of pilot school equipment into St. Joseph's School for the Deaf will be performed by Hickey and Pallis. Installation into three schools in the Davis Joint Unified School District will be performed by Miezel and Gargano.
**Deliverables: A written statement indicating that the pilot school equipment has been procured and installed in each of the schools.**

07.1.0     **Procure Pilot School Equipment**           2/3/96        2/3/96
              **Hickey, Pallis, Gargano, Meizel, PI**

Validate equipment list, finalize configuration, develop configuration diagrams for equipment to be procured. Configure, specify, order, and procure all equipment required by the Year 1 pilot schools. All equipment is to be inspected, configured, and tested prior to installation in the pilot schools. The equipment is then to be shipped to the sites in preparation for installation.
**Deliverables: A written statment to the PI indicating the expected delivery dates. A written statement indicating that this equipment has been procured and shipped.**

08.0.0     **Install Equipment at Pilot Schools**        3/4/96        3/4/96
              **Pallis, Hickey, Gargano, Meizel**

Develop a detailed installation plan and checklist for the equipment being installed into the pilot schools. Miezel and Gargano will install the equipment in the schools located in the Davis area. Gargano will oversee this effort. The equipment will be installed into St. Joseph's School for the Deaf by Pallis and Hickey. Re-install the equipment in the pilot schools which has been used by the Curriculum Team for textbook development.
**Deliverables: A written report indicating that all installation is complete. Provide written notification to NASA of transfer of equipment to pilot schools. Warranty forms submitted.**

08.0.0     **Training of Pilot Schools**           03/01/96       03/31/96
              **Hickey, Zenhausern, Pallis, PI, Hogan, Meizel**

Train the pilot schools in internet usage, the self-paced internet training package, project procedures, resources for students with disabilities and utilization of the textbook.
**Deliverables: Evaluation feedback forms from all staff members receiving training.**

09.0.0     **Phase I Pilot in Classrooms**          04/01/96       06/018/96
              **PI, Hogan, Meizel, Volpe, Pilot Staffs**

Utilize the textbook materials in actual classrooms.
**Deliverables: Bi-weekly summary reports from all pilot staff members**

10.0.0     **Final Project Report Deliverable - Year 1**       06/01/96       06/18/96

10.1.0     **Project Continuation**                06/01/96       06/18/96
              **PI**

Determine initial prospects for project continuation and or marketing.
**Deliverables: Written statement regarding the above will be included in the Final Year 1 report to NASA.**

| No. | Task | YEAR 2 | Start | End |
|-----|------|--------|-------|-----|

**11.0.0**     **Administration**                                  06/19/96    06/18/97
**PI, Hogan, Meizel, Volpe, Pallis Ryan, IT/DCAS, Zenhausern, Hartman**

Project coordination and required NASA status reports.
**Deliverables: Weekly status reports and required NASA reports.**

**11.0.1**     **Modify Project Plan**                           06/19/96    08/12/96
**Responsible: PI**

Modify and republish the project plan as needed to reflect the current schedule. The revised plan will list: all milestones and dates, all project tasks which are part of those milestones, each team member that will participate on that task and the deliverable on that task. A detailed description of each task will be included.
**Deliverables: Revised Project Plan**

**12.0.0**     **Phase I Modifications**                        06/19/96    08/31/96
**Responsible PI**

Based on the feedback received during the previous years Pilot in Classroom milestone define and modify changes which must be made to the Phase I materials including text development and graphics determination. Editing for continuity of language as necessary will be done.
**Deliverables: Modifications to Phase I materials.**

**13.0.0**     **Phase II Development**                       06/19/96    03/31/97
**Responsible PI**

Phase II Development entails all aspects of the development of *The Careers in Aeronautics* portion of the electronic textbook and the Teachers Supplement. The development of *The Careers in Aeronautics* section includes text development and graphics determination. Editing for continuity of language as necessary will be done.
**Deliverables: The *Careers in Aeronautics* portion of the textbook and the Teachers Supplement.**

**13.0.1**     **Develop Careers in Aeronautics**           06/19/96    03/31/97
**PI, Ryan, Alden, Chaid, Coates, Hawkins, Herman, Johnson, Shultz, Swan, Hogan, Meizel**

Research and write the textbook portion of *The Careers in Aeronautics* section of the electronic textbook for teacher, beginner, intermediate, and advanced audiences. Include enhancements as needed for deaf and Spanish speaking students. Define all graphics required. Expand/modify the original chapter outline (Table of Contents) as needed. Suggest, when possible, lesson plan and student activities, video suggestions and individuals which might be interviewed to supplement the text. Rewrite and edit per recommendations or PI's request.
**Deliverables: Approximately 200 pages of *The Careers in Aeronautics* portion of the textbook, bi-monthly lists of graphic needs**

**13.1.1**     **Teachers Supplement**                        06/19/96    03/31/97
**PI, Ryan, Alden, Chaid, Coates, Hawkins, Herman, Johnson, Shultz, Swan, Hogan, Meizel**

Research and write the Teachers Supplement. This will include all lesson plans, curriculum links, answers to problems and background materials. All graphics and video suggestions will be defined. Rewrite as necessary. Enhance for deaf and Spanish speaking students as necessary.
**Deliverables: Completed Teachers Supplement.**

13.1.2      **Scripts for Teachers Supplement                06/19/96      10/01/96**
            **PI, Ryan, Alden, Chaid, Coates, Hawkins, Herman, Johnson, Shultz, Swan, Hogan, Meizel**

Determine the number of experiments to be video taped and content. Develop the detail for each experiment. Determine the props required for each experiment. Determine the setting required to video tape each experiment.
**Deliverables:   Lesson plan including outline for each experiment and scripts as needed, list of props needed, suggested location and scene.**

13.1.3      **Scripts for Interviews                          07/15/96      10/01/96**
            **PI, Ryan, Alden , Chaid, Coates, Hawkins, Herman, Johnson, Shultz, Swan, Hogan, Meizel**

Develop a list of each person to be interviewed and purpose of the interview. Develop the script for each interview. Determine the setting for each interview.
**Deliverables:   List of Persons to be interviewed and basic purpose of interview.   Interview script for each person.   A list of the Setting and Location for each person to be interviewed.**

14.0.0      **Multimedia Phase I Modifications               06/19/96      09/30/96**
            **Pallis , PI, Hickey, Ryan, Shultz, Chaid, Hawkins Johnson, Coates, Hogan, Meizel, Helios**

Based on the feedback received during the previous years Pilot in Classroom milestone define and modify changes which must be made to the Multimedia Phase I materials.
**Deliverables: Modifications to Multimedia Phase I materials.**

15.0.0      **Multimedia Phase II Development                 06/19/96      03/31/97**
            **Pallis, PI**

Multimedia Phase II Development entails all aspects of developing multimedia graphic materials, videos, stills, illustrations, converting all text developed by the Curriculum Team into HTML format, integrating these with the graphic materials into a finished product, and placing the combined product onto the World Wide Web (WWW). In addition, during the course of the second year of the project, additional equipment will be required to accommodate second year production, reviews of available material and new browsers will also continue.

15.0.1      **Procure Additional Multimedia Equipment        06/19/96      08/15/96**
            **Pallis, Hickey, Okamoto, Hartman, PI**

Additional multimedia development equipment will be procured during the second year. The new hardware and software will be necessary to take advantage of changing technologies, additional tasks planned for the second year, and to meet additional storage and equipment requirements during the second year. This equipment will be used throughout the life of the project.

**Deliverables: Written statement from the Multimedia Project Manager validating the hardware and software lists. Purchase orders from PI. Development equipment warranties.**

15.0.2    **Install Hardware / Software**                    08/15/96      08/18/96
          **Pallis, Hickey, Okamoto**

Install all hardware and configure system for the project development equipment.
**Deliverables:    Letter from Pallis to PI stating that all development hardware and software has been configured, installed and is functioning.**

15.0.3    **Review WWW as Source of Materials**             06/19/96      08/15/96
          **Okamoto**

Ongoing review the World Wide Web for sources of background materials and state of the art multimedia presentations for this project. Sources of material on aeronautics, aviation, aerospace, teacher and children resource materials are to be investigated. Dr. Other subject materials of interest should be noted.
**Deliverables:    Summary of available materials and sources of information, graphics, and resources available on or through the WWW and Internet.**

15.0.4    **Review Browsers**                                06/19/96      08/01/96
          **Okamoto, Hickey**

Ongoing review of WWW Browsers for enhancements, upgrades, and changes which could impact both existing developed materials and new materials which are to be developed.
**Deliverables:    List of WWW Browsers which have been modified or upgraded including any new browsers. A written comparison of browsers, and a list of considerations for each browser, compatibility with the developed project materials and peculiarities.**

15.0.5    **Other Multimedia Sources**                       06/19/96      08/17/96
          **PI, Okamoto, Hickey, Johnson, Meizel, Chapman, Chaid**

Ongoing review other sources for multimedia materials, or materials which can be incorporated into multimedia presentations for the project. Review aviation, aerospace, teacher and children resources for materials applicable to multimedia presentations. Possible sources include the FAA, AIAA, NASA, the Smithsonian, the Air and Space Museum, National Geographic, Marine World, UC Davis Aviary Sciences.
**Deliverables:    A written summary for the PI of the available materials, application of the materials, the release required for the utilization of the materials and the medium the materials exist on, such a photograph, film, video.**

15.0.6    **Signing and Captioning**                         06/19/96      08/16/96
          **PI, Ryan, Hogan, Meizel**

Determine which videos will need to be signed or captioned. Develop the signing or captioning script, if different from spoken script. Determine the setting for signing, if different than that for the experiment.

**Deliverables: A list of which video clips are to be signed or captioned along with the necessary script.**

15.0.7    **Determine Incorporation of Signing/Captioning    07/05/96    08/16/96**
          **Pallis, Hartman, Hickey, Okamoto**

Determine the best method for the incorporation of the signing video and captioning into the deliverable video. That is, will the signed video be a separate selectable video playing simultaneously, in sequence, or be selectable as a separate video? Determine how to synchronize the signing video and captioning with the experiment video.
**Deliverables: Written statement to PI on incorporating signing and captioning.**

15.0.8    **Experiments and Interviews for Video Session    07/28/96    08/16/96**
          **Pallis, Hartman, PI**

Convert the purpose and plan for each experiment into a script which will allow for video taping during the assigned session.
**Deliverable: A script for each experiment, complete with a personnel list, prop list, location requirements,laid out for each video taping session.**

15.0.9    **Production Video Taping                          08/17/96    12/01/96**
          **Pallis,    Helios**

Prepare for all video taping to be performed during this year. Make all arrangements for personnel, locations, props, and make set ready. Finalize video taping dates for Multimedia Phase I. Helios to make arrangements for video equipment and supplies. Video tape all sessions. Up to seven weekend sessions will be required. Return sets to original condition.
**Deliverable: Letters, dates and copies of scripts to each video taping participant. All video sessions taped and ready for editing.**

15.1.0    **Edit Video Tapes                                 11/03/96    01/15/97**
          **Helios**

Perform video tape editing for all experiments. Video tapes of each experiment and interview will be ready for digitizing.
**Deliverables: Edited video tapes delivered to Cislunar.**

15.1.1    **Edit Video Tapes into QuickTime Video Clips      11/05/96    02/15/97**
          **Okamoto, Hickey, Pallis, Hartman**

Digitize each edited video tape and perform final editing to accommodate the requirements for delivering the video over the internet.
**Deliverables: QuickTime video clips ready for use in the internet textbook.**

15.1.2    **Compress Video Files                             01/15/97    02/21/97**
          **Okamoto, Hickey, Pallis**

All videos are to be compressed and made available for integration into the internet textbook.

**Deliverables: A written statement that all video tapes for the year have been compressed and are ready for delivery to IT/DCAS.**

15.1.3    **Generate all Graphics Required for the Textbook**   06/19/96     12/01/96
          **Pallis, Hickey, Okamoto**

Develop on-line Multimedia Request Form for textbook developers to use. The form will contain the following information: photo content - object, object size, pose, scene; description; image display size, color, resolution, hot spots and links; photograph, illustration, or line art. Generate all graphics required for inclusion into the internet textbook. This includes preexisting graphics files from other sources, digitizing photographs and video stills, and generating all illustrations as required.
**Deliverables: A written statement that all graphics are available for use with the internet textbook.**

16.0.0    **System Support Year 2**                  06/19/96     06/18/97
          **IT/DCAS, Gargano and Weiss**

Support the World Wide Web server for the K-8 Aeronautics Internet Textbook. Assist in the loading of text, graphic and video medium. Consult and assist in a "reflector mail service" for team members. Assist in the installation of the Davis Joint Unified School District pilot schools equipment. Interface with the Davis Community Network. Based on priorities set with the PI support other essential systems work.
**Deliverables: Status reports as required by the PI.**

17.0.0    **Implement Phase I Modifications**         10/01/96     10/01/96
          **Responsible PI**

Cutover Phase I modifications from both the development and multimedia groups.
**Deliverables: Cutover Phase I Modifications.**

18.0.0    **Pilot School Evaluation of Phase II Curriculum**   10/01/96     03/31/97
          **Hogan, St. Joseph's Staff, Meizel, DJUSD Staff, Volpe, PS 102 Staff, Year 2 Pilot Schools**

Critique the new materials for ease of use, content, applicability to state requirements and classroom utilization. In particular feedback regarding the materials applicability for multicultural, deaf and visually impaired students Specify modifications and enhancements needed. Make suggestions.
**Deliverables: Written critiques and evaluations by pilot school staffs.**

019.0.0    **Field Test Phase II**                     01/01/97     03/31/97
          **PI, IT/DCAS, Meizel, Ryan, Alden, Coates**

Utilizing typical classroom computer equipment, benchmark the performance of the developed project materials. Check out all developed procedures on proposed textbook utilization.
**Deliverables: Written summary of benchmark results, modified procedures and a list of system modifications needed.**

20.0.0    **Phase II Pilot in Classrooms**          04/01/97     06/18/97
          **PI, Hogan, Meizel, Volpe, Pilot Schools Staffs**

Utilize the textbook materials in actual classrooms.

**Deliverables: Bi-weekly summary reports from all pilot staff members**

21.0.0 **Install Pilot School Equipment - Year 2**     6/19/95     3/31/96
**Hickey, Pallis, Gargano, Meizel**

Installation of pilot school equipment.
**Deliverables: A written statement indicating that the pilot school equipment has been procured and installed in each of the schools.**

21.1.0 **Procure Pilot School Equipment**     2/3/96     2/3/96
**Hickey, Pallis, Gargano, Meizel, PI**

Validate equipment list, finalize configuration, develop configuration diagrams for equipment to be procured. Configure, specify, order, and procure all equipment required by the Year 2 pilot schools. All equipment is to be inspected, configured, and tested prior to installation in the pilot schools. The equipment is then to be shipped to the sites in preparation for installation.
**Deliverables: A written statment to the PI indicating the expected delivery dates. A written statement indicating that this equipment has been procured and shipped.**

21.2.0 **Install Equipment at Pilot Schools**     3/4/96     3/4/96
**Pallis, Hickey, Gargano, Meizel**

Develop a detailed installation plan and checklist for the equipment being installed into the pilot schools. Miezel and Gargano will install the equipment in the schools located in the Davis area. Gargano will oversee this effort.
**Deliverables: A written report indicating that all installation is complete. Provide written notification to NASA of transfer of equipment to pilot schools. Warranty forms are to be completed and mailed.**

22.0.0 **Final Project Report Deliverable - Year 2**     06/01/97     06/18/97

22.1.0 **Project Continuation**     06/01/97     06/18/97
**PI**

Determine anticipated prospects for project continuation and or marketing.
**Deliverables: Written statement regarding the above will be included in the Final Year 1 report to NASA.**

| No. | Task | YEAR 3 | Start | End |
|---|---|---|---|---|

**23.0.0** **Administration** 06/19/97 06/18/98
**PI, Hogan, Meizel, Volpe, Pallis, Ryan, IT/DCAS, Zenhausern, Hartman**

Project coordination and required NASA status reports.
**Deliverables: Weekly status reports and required NASA reports.**

**23.1.0** **Modify Project Plan** 06/19/97 08/12/97
**Responsible: PI**

Modify and republish the project plan as needed to reflect the current schedule. The revised plan will list: all milestones and dates, all project tasks which are part of those milestones, each team member that will participate on that task and the deliverable on that task. A detailed description of each task will be included.
**Deliverables: Revised Project Plan**

**24.0.0** **Phase II Modifications** 06/19/97 08/31/97
**Responsible PI**

Based on the feedback received during the previous years Pilot in Classroom milestone define and modify changes which must be made to the Phase II materials including text development and graphics determination. Editing for continuity of language as necessary will be done.
**Deliverables: Modifications to Phase II materials.**

**25.0.0** **Phase III Development** 06/19/97 02/01/98
**Responsible PI**

Phase III Development entails all aspects of the development of *The Future of Aeronautics* portion of the electronic textbook, the Student Workbook and any enhancements or modifications defined for students with special needs. The development of *The Future of Aeronautics* section includes text development and graphics determination. Editing for continuity of language as necessary will be done.
**Deliverables: The *Future of Aeronautics* portion of the textbook, the Student Workbook, and enhancements for students with special needs.**

**25.0.1** **Develop Future Of Aeronautics** 06/19/97 02/01/98
**PI, Ryan, Alden, Chaid, Coates, Hawkins, Herman, Johnson, Shultz, Swan, Hogan, Meizel**

Research and write the textbook portion of *The Future of Aeronautics* section of the electronic textbook for teacher, beginner, intermediate, and advanced audiences. Include enhancements as needed for deaf and Spanish speaking students. Define all graphics required. Expand/modify the original chapter outline (Table of Contents) as needed. Make video suggestions and suggest individuals which might be interviewed to supplement the text. Rewrite and edit per recommendations or PI's request.
**Deliverables: Approximately 200 pages of *The Future of Aeronautics* portion of the textbook, bi-monthly lists of graphic needs**

**25.1.1** **Student Workbook** 06/19/97 02/01/98
**PI, Ryan, Alden, Chaid, Coates, Hawkins, Herman, Johnson, Shultz, Swan, Hogan, Meizel**

Research and write the Student Workbook which will accompany the text. This will include: beginner, intermediate, and advanced levels and any enhancements for students with special needs. All graphics and video suggestions will be defined. Rewrite as necessary. Enhance for deaf and Spanish speaking students as necessary.
**Deliverables: The Student Workbook.**

25.1.2    **Scripts for Activities**                          06/19/97      10/01/98
              **PI, Ryan, Alden, Chaid, Coates, Hawkins, Herman, Johnson, Shultz, Swan, Hogan, Meizel**

Determine the number of activities to be video taped and content. Develop the detail for each activity. Determine the props required for each activity. Determine the setting required to video tape each activity.
**Deliverables: Plan outline for each activity and scripts as needed, list of props needed, suggested location and scene.**

25.1.3    **Scripts for Interviews and Tours**             06/19/97      10/01/98
              **PI, Ryan, Alden, Chaid, Coates, Hawkins, Herman, Johnson, Shultz, Swan, Hogan, Meizel**

Develop a list of each person to be interviewed and purpose of the interview. Develop the script for each interview. Determine the setting for each interview. Determine any electronic tours and associated scripts required.
**Deliverables: List of Persons to be interviewed and basic purpose of interview. Interview script for each person. A list of the Setting and Location for each person to be interviewed. A list and script for each electronic tour.**

25.0.3    **Enhancements for Students with Special Needs**  06/19/97      02/01/98
              **PI, Ryan, Alden, Chaid, Coates, Hawkins, Herman, Johnson, Shultz, Swan, Hogan, Meizel**

Research and write enhancements for students with special needs.
**Deliverables: Modified textbook and Teachers Supplement.**

26.0.0    **Multimedia Phase II Modifications**          06/19/97      09/30/97
              **Responsible PI**

Based on the feedback received during the previous years Pilot in Classroom milestone define and modify changes which must be made to the Multimedia Phase II materials.
**Deliverables: Modifications to Multimedia Phase II materials.**

27.0.0    **Multimedia Phase III Development**        06/19/97      02/28/98
              **Responsible: Pallis**

Multimedia Phase II Development entails all aspects of developing multimedia graphic materials, videos, stills, illustrations, converting all text developed by the Curriculum Team into HTML format, integrating these with the graphic materials into a finished product, and placing the combined product onto the World Wide Web (WWW). In addition, during the course of the third year of the project, additional equipment will be required to accommodate third year production, reviews of available material and new browsers will also continue.

27.0.1    **Procure Additional Multimedia Equipment**       06/19/97       08/15/97
          **Pallis, Hickey, Okamoto, Hartman, PI**

Additional multimedia development equipment will be procured during the third year. The new hardware and software will be necessary to take advantage of changing technologies, additional tasks planned for the third year, to meet the requirements of Special Needs students, and additional storage and equipment requirements during the third year. This equipment will be used throughout the life of the project.
**Deliverables: Written statement from the Multimedia Project Manager validating the hardware and software lists. Purchase orders from PI. Development equipment warranties.**

27.0.2    **Install Hardware / Software**                    08/15/97       08/18/97
          **Pallis, Hickey, Okamoto**

Install all hardware and configure system for the project development equipment.
**Deliverables: Letter from Pallis to PI stating that all development hardware and software has been configured, installed and is functioning.**

27.0.3    **Review WWW as Source of Materials**              06/19/97       08/15/97
          **Okamoto**

Ongoing review the World Wide Web for sources of background materials and state of the art multimedia presentations for this project. Sources of material on aeronautics, aviation, aerospace, teacher and children resource materials are to be investigated. Dr. Other subject materials of interest should be noted.
**Deliverables: Summary of available materials and sources of information, graphics, and resources available on or through the WWW and Internet**

27.0.4    **Review Browsers**                                06/19/97       08/01/97
          **Okamoto, Hickey**

Ongoing review of WWW Browsers for enhancements, upgrades, and changes which could impact both existing developed materials and new materials which are to be developed.
**Deliverables: List of WWW Browsers which have been modified or upgraded including any new browsers. A written comparison of browsers, and a list of considerations for each browser, compatibility with the developed project materials and peculiarities.**

27.0.5    **Other Multimedia Sources**                       6/19/97        8/17/97
          **PI, Okamoto, Hickey, Johnson, Meizel, Chapman, Chaid**

Ongoing review other sources for multimedia materials, or materials which can be incorporated into multimedia presentations for the project. Review aviation, aerospace, teacher and children resources for materials applicable to multimedia presentations. Possible sources include the FAA, AIAA, NASA, the Smithsonian, the Air and Space Museum, National Geographic, Marine World, UC Davis Aviary Sciences.
**Deliverables: A written summary for the PI of the available materials, application of the materials, the release required for the utilization of the materials and the medium the materials exist on, such a photograph, film, video.**

27.0.6    **Signing and Captioning**                              06/19/97      08/08/97
          **PI, Ryan, Hogan, Meizel**

          Determine which videos will need to be signed or captioned. Develop the signing or
          captioning script, if different from spoken script. Determine the setting for signing, if
          different than that for the experiment.
          **Deliverables:  A list of which video clips are to be signed or captioned
          along with the necessary script.**

27.0.7    **Determine Incorporation of Signing/Captioning**   07/05/97      08/18/97
          **Pallis, Hartman, Hickey, Okamoto**

          Determine the best method for the incorporation of the signing video and captioning
          into the deliverable video. That is, will the signed video be a separate selectable video
          playing simultaneously, in sequence, or be selectable as a separate video? Determine
          how to synchronize the signing video and captioning with the experiment video.
          **Deliverables:  Written statement to PI on incorporating signing and
          captioning.**

27.0.8    **Experiments and Interviews for Video Sessions**   07/28/97      08/09/97
          **Pallis, Hartman, PI**

          Convert the purpose and plan for each experiment or interview into a script which will
          allow for video taping during the assigned session.
          **Deliverable:  A script for each experiment, complete with a personnel
          list, prop list, location requirements,laid out for each video taping
          session.**

27.0.9    **Production Video Taping**                          08/09/97      11/29/97
          **Pallis,  Helios**
          Prepare for all video taping to be performed during this year. Make all arrangements
          for personnel, locations, props, and make set ready. Finalize video taping dates for
          Multimedia Phase I. Helios to make arrangements for video equipment and supplies.
          Video tape all sessions. Up to seven weekend sessions will be required. Return sets to
          original condition.
          **Deliverable:  Letters, dates and copies of scripts to each video taping
          participant.  All video sessions taped and ready for editing.**

27.1.0    **Edit Video Tapes**                                 11/03/97      12/15/97
          **Helios**

          Perform video tape editing for all experiments. Video tapes of each experiment and
          interview will be ready for digitizing.
          **Deliverables:  Edited video tapes delivered to Cislunar.**

27.1.1    **Edit Video Tapes into QuickTime Video Clips**   01/04/96      02/14/96
          **Okamoto, Hickey, Pallis, Hartman**

          Digitize each edited video tape and perform final editing to accommodate the
          requirements for delivering the video over the internet.
          **Deliverables:  QuickTime video clips ready for use in the internet
          textbook.**

27.1.2    **Compress Video Files**                             01/15/97      02/15/96

**Okamoto, Hickey, Pallis**

All videos are to be compressed and made available for integration into the internet textbook.
**Deliverables: A written statement that all video tapes for the year have been compressed and are ready for delivery to IT/DCAS.**

27.1.3     **Generate all Graphics Required for the Textbook**   06/19/97     12/01/97
           **Pallis, Hickey, Okamoto**

Develop on-line Multimedia Request Form for textbook developers to use. The form will contain the following information: photo content - object, object size, pose, scene; description; image display size, color, resolution, hot spots and links; photograph, illustration, or line art. Generate all graphics required for inclusion into the internet textbook. This includes preexisting graphics files from other sources, digitizing photographs and video stills, and generating all illustrations as required.
**Deliverables: A Multimedia Request Form. A written statement that all graphics are available for use with the internet textbook.**

28.0.0     **System Support Year 3**                               06/19/97     06/18/98
           **IT/DCAS, Gargano and Weiss**

Support the World Wide Web server for the K-8 Aeronautics Internet Textbook. Assist in the loading of text, graphic and video medium. Consult and assist in a "reflector mail service" for team members. Interface with the Davis Community Network. Based on priorities set with the PI support other essential systems work. With the PI determine how support for the WWW server should be handled after project completion.
**Deliverables: Status reports as required by the PI.**

29.0.0     **Implement Phase II Modifications**                    10/01/97     10/01/97
           **Responsible PI**

Cutover Phase II modifications from both the development and multimedia groups.
**Deliverables: Cutover Phase II Modifications.**

30.0.0     **Pilot School Evaluation of Phase III Curriculum**   10/01/97     01/31/98
           **Hogan, St. Joseph's Staff, Meizel, DJUSD Staff, Volpe, PS 102 Staff, Year 2 and 3 Pilot Schools**

Critique the textbook materials for ease of use, content, applicability to state requirements and classroom utilization. In particular feedback regarding the texts applicability for multicultural, deaf and visually impaired students    Specify modifications and enhancements needed. Make suggestions.
**Deliverables: Written critiques and evaluations by pilot school staffs.**

31.0.0     **Field Test Phase III**                                01/01/98     02/28/98
           **PI, IT/DCAS, Meizel, Ryan, Alden, Coates**

Utilizing typical classroom computer equipment, benchmark the performance of the developed project materials. Check out all developed procedures on proposed textbook utilization.
**Deliverables: Written summary of benchmark results, modified procedures and a list of system modifications needed.**

**32.0.0**  **Install Pilot School Equipment - Year 3**  10/01/97  10/31/97
**Pallis, Hickey, Okamoto, Wheeler**

Assist in the installation of pilot school equipment. Oversee any facility changes.
**Deliverables:  Transfer of equipment letter to NASA**

**32.1.0**  **Procure Pilot School Equipment**  2/3/96  2/3/96
**Hickey, Pallis, PI**

Validate equipment list, finalize configuration, develop configuration diagrams for equipment to be procured.  Configure, specify, order, and procure all equipment required by the Year 3 pilot schools.  All equipment is to be inspected, configured, and tested prior to installation in the pilot schools.  The equipment is then to be shipped to the sites in preparation for installation.
**Deliverables:  A written statment to the PI indicating the expected delivery dates.  A written statement indicating that this equipment has been procured and shipped.**

**32.2.0**  **Install Equipment at Pilot Schools**  3/4/96  3/4/96
**Pallis, Hickey**

Develop a detailed installation plan and checklist for the equipment being installed into the pilot schools.
**Deliverables:  A written report indicating that all installation is complete.  Provide written notification to NASA of transfer of equipment to pilot schools.  Warranty forms are to be completed and mailed.**

**33.0.0**  **Phase III Pilot in Classrooms**  03/01/98  06/18/98
**PI, Hogan, Meizel, Volpe, Pilot Schools Staffs**

Utilize the textbook materials in actual classrooms.
**Deliverables:  Bi-weekly summary reports from all pilot staff members**

**34.0.0**  **Final Project Report Deliverable  - Year 3**  06/01/98  06/18/98

**34 .1.0**  **Project Continuation**  06/01/98  06/18/98
**PI**

Finalize prospects for project continuation and or marketing.
**Deliverables:  Written statement regarding the above will be included in the Final Year 3 report to NASA.**